DOCUMENT RESUME

ED 071 155 EA 004 656

AUTHOR Braham, Mark
TITLE Is Educative Schooling Possible?
PUB DATE May 72
NOTE 38p.; Revision of paper presented to Canadian Association of Professors of Education annual meeting. (Montreal, Ontario (Canada) May 1972)

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS Administrator Education; Administrator Selection; *Educational Objectives; *Educational Philosophy; *Educational Quality; *Educational Theories; Education Majors; Intelligence; Organization; *Schools of Education; Speeches; Teacher Education; Teacher Selection

ABSTRACT

This paper suggests a theoretical grounding for considerations about education from which a conceptual model for an educational setting can be derived. The author discusses the distinction between schooling and education, the biological necessity of education, and the organization of education. He considers four criteria of education that translate into adaptation, participation, creative contribution, and constructive transformation of the enrironment. These four criteria are seen to occupy different focus centers in schooling, depending on the age of the individual. The author argues that, although schools can be expected to do a reasonably good job with regard to helping the individual adapt to and participate in the environment, present institutional conservatism is educationally restrictive and prohibits the constructive transformation of the environment. The paper concludes by suggesting that schools could more effectively meet the total demands of education by improving the competency of educators through changes in the methods of their selection and training. (DN)

NOV 28 1972

ED 071155

Is Educative Schooling Possible?*

Mark Braham**

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

1. Introduction

There is considerable current discussion about the ills of schooling and the need for alternatives to the institutional life that has been the experience of generations of children. As justified as many of the complaints, and as appealing as the idea of "no more pencils, no more books, no more teachers dirty looks," may be, it is by no means clear that the answer to our dissatisfactions is, to quote Illich, to "de-school the society."[1] On the contrary, some thorough re-schooling is undoubtedly called for, but it is schooling, nevertheless.

Whether our interest is in de-schooling or re-schooling, there is probably agreement that the underlying concern is to provide for the optimum education of children and youth. We can probably also agree that schools as we know them are not necessarily educational institutions, and that it is the dissatisfaction with this situation that is the root cause of so much discontent. But there is a good deal of confusion over this discontent, a confusion about what we mean by education and what constitutes an educational setting.

The primary task of this paper, therefore, will be to suggest a theoretical grounding for our considerations about education from which a conceptual model for an educational setting can be

EA 004 656

---

* Revision of a paper presented to the Canadian Association of Professors of Education, annual meeting, McGill University, Montreal, Canada, May, 1972.

** Associate Professor, Department of Education, Sir George Williams University, Montreal, Canada.

derived.

2. Education and Schooling

We may begin with a not uncommon point of view: schooling, towards which the bulk of the thought about the nature and practice of education is directed, is not necessarily educational; teachers, administrators, programme and policy makers, and even professors of education, are not necessarily educators. There is no necessary connection between "education" as a criterion and particular practices and results, although the term is widely used to designate all three.

For example, the term "education" may be taken to signify certain objectives such as "the development of the reflective intelligence of the individual," and his becoming an "authentic person" as the Existentialists would say. Yet, we often find that in the name of "education" we have school practices that prevent such objectives being realized, and instead encourage the development of non-reflective, dependent and even submissive behaviour. Much of our problem lies in our lack of agreement concerning our concepts of education, and those programmes and methods that can turn justifiable theory into relevant practice.

The results of our confusions are now upon us in the form of wide-spread dissatisfaction with, and hostility to, schooling; a dissatisfaction that has spread even to the idea of education itself. The disenchantment is now of sufficient proportions that it is no longer voiced as only the distressed sounds of rebellious youth. It

has reached the point of prophecy, "the end of the age of schooling," according to Ivan Illich:

> Within the next few years, both the purveyors and the consumers of packaged education will have to acquiesce to the end of the age of schooling, just as they have acquiesced to the end of the age of the monarchy and of the church, and teachers will have to accept a fate similar to that which befell priests and nobles in other times.[2]

Whether Illich's analogies are sound is open to debate. That there is need for an educational reformation cannot, I think, be doubted. Illich and those who support his position may well be right; the very weaknesses of the schooling establishment, its lack of internal coherence and logic; its failure to appeal to an increasingly self-conscious and vocal student body, and its inordinate expense, may be sufficient to cause its downfall. In addition, there is of course, nothing like prophecy, which is not only a pronouncement but a call to action, to become self-fulfilling.

Whether a reformation of the school is possible or whether its demise is probable is very unclear. We can attempt to continue with our present arrangements, which are none too satisfying--patching up here and there--or, we can try to come to grips with the situation and seek for a radical improvement in schooling. Such imporovements mean either "re-schooling", or, failing our willingness or ability to re-school, possibly having to take our radicalism farther and accept "de-schooling" that is to say, the dissolution of formal pedagogical institutions.

It may well be that the complexity of our contemporary life;

the vast accumulation of information, knowledge and technology; the uncertainties over matters of value; and the inability, both individual and collective, for contemporary youth and adults to find meaning and satisfaction in their lives means that we have gone beyond the point of no-return in our schooling. Thus, it may be that our schools so lack relevance to the contemporary world, and significance for developing humans, that they are no longer viable. Before declaring total bankruptcy, however, and deciding that we are incapable of providing educative schooling, I should like to turn to some foundational ideas about education and then consider their implications for schooling.

3. Naturalistic Foundations

We, Homo sapiens sapiens, are, as far as we know, the youngest species in the Order of Nature. At the same time we are the most deficient of all known species in instinctual programming. As a consequence the human infant more than any other requires an extended period of post-natal nurture and training.

At the infra-human levels of life, instinct (or unconditioned reflex),[3] signifying patterns of action that have been selected and maintained over time, predominates in the organization of individual and species development. Instinct appears as well in human life, but to a far less degree. Infants suck, swallow and cry without being taught. Our heart beats and our lungs respire according to an ancient rhythm not of our own choosing. In this sense, mechanism, or determin-

ism, governs a considerable portion of our lives, and necessarily so. It leaves us with the opportunity--with the requirement, in fact--of paying attention to our cognitive and affective processes. What is not already governed by our history demands our attention.

Beyond the physical, and perhaps a limited range of affective and cognitive responses, human action requires constant attention until established patterns of action, or habits, secure our adaptation and provide an orientation for our activities. Instinctual patterns and processes blur with learned, or culturally rather than genetically acquired behaviours. Unconditioned reflexes are overlaid by conditioned reflexes. Through the auspices of our "roof-brain" reflection, abstraction, and projection emerge as our thought-life.[4] Between the stimulus and the response, the psyche makes its claim.

Our very deficiency in instinctual behaviours calls forth a constant demand for "learning": for the acquisition of information and the establishing of subsequent responses to environing conditions. It is the intentional organization of learning that we imply when we speak of "education." Education is the formal link between a developing individual and what is essentially a social milieu. Through the process of education, successive generations of human young learn the necessary adaptations for living in their society. Through education, they also develop their individual repertoire of information and responses that enable them to participate in, and to contribute to, their society. As there are no identical (although there are similar) responses each individual, through his education, adds to the content of

his society; a minority become dynamically transformative.

By the same token that there is a constant reciprocity between psyche and society there is a constant reciprocity between psyche--perhaps "personality" is a better term--education and society. These three then appear as a basic triad in evolution at the human phase.[5] To this we may add the observation that in the course of human history the complexity of educational processes has increased with the increase in social complexity such that parents, either by choice or by circumstance, have been deemed insufficiently competent to provide for the education of their young. As a consequence we have seen the development of schooling, whether under the aegis of village elders, shamans, priests, master craftsmen, private tutors or publically supported teachers, as our better or worse attempt to provide for education. Despite the emergence of "counter-cultural" life-styles at the present time, there is no indication that the complexity of social life, nor of our educational requirements will decrease over the next decades. Rather, barring wholesale human self-destruction the content and intensity of education will most probably increase. This factor may be one of the causes of the widespread unrest and concern about educational aims, methods of instruction, and the nature of schooling at all levels.

In summary, education appears in human life as a matter of natural or, we may say, evolutionary necessity. This is the case, for without learning in general, and the intentional organization of learning in particular, the psycho-social phase of evolution would

not have been possible. Education, defined in part as the intentional organization of learning, is not simply the result of societal demand or personal interest, but is primarily called for by the instinctual deficiency and immaturity of the human brain, and consequently, of the immaturity of our thought and emotional life.

4. Education and Organization

While education appears as a matter of natural necessity, it is not something that "just happens." Education, which may also be understood as the process that provides for the intentional and reflective self-organization of developing persons, is a manifestation of the principle of organization that pervades nature-at-large.

By the term "organization" we refer to the process through which discrete units or individuals develop their internal structures and functions and at the same time associate or form relationships with other units or individuals for common structuring and functioning. It is the developmental process through which any form of life comes into being, tends towards optimal functioning and is maintained, such that one may state the rule: no organization, no existence.

Organization is found at every level of organic complexity: macro-molecular, macro-molecular aggregate, organelle, cell, tissue, organ, system of organs, individual, communal and institutional. It is also found in perception, in concept acquisition and generation, in scientific and aesthetic activity and technological developments. It is not possible to enter into a discussion of organizational dyna-

mics here.[6] We can but note that while infra-human life is self-organized (that is, is organized from within) according to an instinctual programme not of its own choosing (encoded on DNA?) that is triggered and shaped in response to environing conditions, humans must largely create their own programmes, that is, become intentionally self-organizing.

Such programming has many components, e.g. ontogenetic or "growth" pressures; environmental pressures and opportunities; species (or genotypic) and individual (or phenotypic) characteristics, and at least three main qualities. These qualities, which may also be taken to signify potential and actual (but not inevitable) stages of human development: are (1) unintentional, (2) intentional but unreflective, and (3) intentional and reflective.

Without elaborating these points (except to suggest that they bear some correspondence to Piaget's hierarchy of pre-concrete, concrete, and formal modes of thought), we may say that the third quality, that of intentional and reflective self-organization--or, "reflective intentionality"--is not only a significantly human attribute, but a necessary condition of human development. Its necessity rests on the grounds of human instinctual deficiencies (beyond the physiological level) and the corresponding need (and the freedom for) determining courses of effective action.

"Reflective intentionality" is not an initial condition of life, nor is it rapidly acquired. Although it certainly exists <u>in potentia</u>, its development and elaboration depends on learning. Learning, at least in its early stages, requires assistance from other

humans, those who have achieved a more advanced state of self-organization and are able to be of assistance to those less organized in particular competencies. We speak of this assistance as "teaching," "guidance," "instruction," and so forth, recognizing that thorough distinctions, for which space does not presently allow, should be made between these terms.

Now, effective teaching is not a haphazard affair. It requires information about, and competency in, those acts, objects, processes and ideas that are of concern. It also requires the ability of a teacher to assist a learner in the acquisition of relevant information, and the development of the appropriate competencies. It is this situation that brings us to the whole matter of schooling; the institutional framework within which optimum teaching and learning theoretically could go on.

We may say "theoretically," as it is not clear that optimum teaching and learning have been, or are, the basis for most school programmes and practices. Nor is it clear that those who teach are necessarily competent in either a field or fields of relevant information, or in the ability to help students learn. While requirements for elementary and secondary teachers tend to be deficient where subject competency is concerned (see pp.30-31) universities are notoriously weak where competency in helping students learn is concerned, since the notion prevails that having an advanced degree in a subject is tantamount to being a good teacher of that subject.

It should, incidentally, be noted that the complexity of the teaching required by any learner is proportional to the complexity of

both the information that is required and the learner's consciousness. Hence, a child can be an effective teacher with regard to matters at his level of competence, and of course, anyone else whose particular assistance is required can be a teacher. It is where specific competencies requiring systematic teaching and learning (and where ability for totally self-organized learning has not yet been achieved) that schooling is called for. Unfortunately, this does not imply that the schooling will be necessarily educative, and this of course is the crux of contemporary disillusionment with the schooling establishment.

The weakness of much of contemporary schooling, whether at the kindergarten, elementary, secondary, collegial or university levels, does not rule out the importance of organized teaching; it simply indicates the inadequacies that prevail. Even if teaching is to be offered in another garb and under different names, we will have schooling nevertheless, for schooling is but the outer structure of the teaching-learning situation.

"De-schooling" calls for a reorganization of teaching under auspicies other than those of the formal institutions we usually encounter. Illich, for example, turns to industry and commerce:

> Money now spent on advertising in capitalist countries could be re-directed towards education in and by General Electric, NBC-TV or Budweiser Beer. That is, the plants and offices should be re-organized so that their daily operations would be more accessible to the public in ways that make learning possible; and indeed ways might be found to pay the companies for the learning people acquired from them.[7]

Even if learning were to become organized around commercial and industrial activities (beyond the on-the-job training programmes

presently in existence), can we expect employees to be given released time from their primary responsibilities to become teachers? Possibly we can. But since effective teaching requires attention to the details of pedagogy, would we not find that those most competent (if the teaching is to be effective) would begin to specialize in their new roles. Would we not then have simply re-located schooling rather than have de-schooled?

Further, since competent employees tend to identify with the values and interests of their occupations (unless they "opt out" and therefore they would hardly be assigned by management to be teachers), would not this new schooling become subsumed under the requirements of particular corporations? While there may be much to commend the idea from the standpoint of providing intruction in occupational skills, is skill learning to be ultimately the criterion for educative schooling?

What, for example about the wider issues involved in any major set of procedures--those concerning their ethical justification, their effects on the environment, on the economy and on social life generally--? If "reflective intentionality" can be taken to be a major goal for our educational aspirations, one that is not particularly in evidence in our contemporary schools, will it be any better developed under industrial and commercial based schooling, or by "farming" students out into the community among workers whose interests may be far less with the development of the individual's needs for "fuller and fuller being," as Maslow states it, than with their primary occupational tasks?

Whatever, we can admit to the failures of our general systems of schooling in their task of providing for education. We cannot deny the need for re-schooling, but it is not yet clear what would be the soundest approach particularly in highly technological societies.

5. Four Criteria of Education; Four Tasks for Schooling

An examination of the place of education in human life suggests that it involves four developmental tasks. These, if they are accepted as justifiable, may be regarded as general criteria for schooling whatever the structures that are involved. A failure to adhere to them, where education is the espoused intent, would be tantamount to declaring such non-adherence as non-, anti-, or even mis-educative.

The criteria are:

(1) The criterion of adaptation to the environment;

(2) The criterion of participation in the environment;

(3) The criterion of creative contribution to the environment;

(4) The criterion of constructive transformation of the environment.[8]

The term environment is used here to designate the individual's external milieu, human and non-human, within which, at any given time, he "lives and moves and has his being."

(1) The Criterion of Adaptation.--By "adaptation" we may understand the "fittingness" of the individual to his surroundings. More explicit-

ly one may say that that individual is better adapted than another who functions in his milieu with the greatest rapport, or harmony. We use such phrases as "settling down," or "fitting in," when referring to an individual's adaptive behaviour.

The human infant, similarly to the young of other species, is born as a dependent being who must adapt to his surroundings. His earliest activities are basically concerned with his survival in a post-uterine state and with the differentiation and integration of his total organic system. His body needs to assimilate new food; to accomodate itself to a host of micro-organisms, and as cognition developes the child must learn to function within the multifold conditions of his surroundings. Without learning, the child could scarcely continue to exist beyond a gastro-intestinal state.[9]

While the child's adaptive behaviours begin below the threshhold of cognition, lacking any intentional intervention on his part, by his first year his activities show considerable self-determination. During the first four or five years of his life, the child, under the direction and guidance of parents and members of the immediate--and where existing, the extended--family, learns what and how to eat, to dress, to speak and understand the local language, and to know and respond to the expectations of an increasing number of people. He begins, in sum, to adapt to, and acquire, his culture.

While it is common to speak of this period of a child's learning in terms of "education," we should do so with the recognition that his learning is, for the most part, informally arranged.

While certainly there is intentional organization of the child's learning (through, for example, approval and disapproval of behaviour) this organization is not necessarily clearly conceived or grounded in particularly justifiable concepts of child growth and development except perhaps, where professional assistance has been employed. In whatever manner it is brought about, the child's ability to adapt to his environment is a necessary condition of any further development.

(2) The Criterion of Participation.--By participation (within an educational context) we may understand the individual's engagement in activities that, for the most part, are conducive to the maintenance of his society. While adaptation continues to be a concern of the individual, at least until the parameters of his environment (phenomenally rather than geographically speaking) have become stabilized, it is far from all there is to his life. Adaptation, we might suggest, is primarily ego- or auto-centric, for it concerns essentially the individual's need to survive. Participation, within which adaptation must be included, is essentially socio- or allo-centric, as it concerns the individual's engagement in an increasingly objective world of social as well as of material events.[10]

It is probably not too much to say that from about the age of five children the world over are placed under increasing pressure, not only to continue their adaptive learning, but also to participate in group and communal activities. For this purpose, the organization of a child's learning becomes far more intentional and systematic; it becomes more formally pedagogical.

Under hunting, fishing and even more complex agrarian styles of life, daughters are generally relegated to household duties under the tutelage of the women, while sons undertake designated chores under the tutelage of the men. In industrial societies the complexity of adult tasks (and in many cases the appearance, as well, of political legislation) has transferred the child's learning from direct participation in the work of the community to a period of specialized instruction in the institution of the school. It is here that the child is expected to acquire the basic competencies in requisite fields before he is permitted to engage directly in an occupation.

It is here, we may note, that the critical factor of the child's separation from the community of work appears.[11] Schooling, rather than enabling the child to engage in and develop his understanding of his community, for the most part restricts him to the confines of the school. Little "bridging" work between school and community experiences seem evident in urban societies except in the form of occasional "field trips" and thus, the criterion of participation has hardly been realized. Dewey, the followers of the "Progressive Education Movement," and now the "De-schoolers" all display what I take to be justifiable concern over this matter.

Whether the learning is provided for through schooling or through direct participation in the adult world of work, the child is expected to gradually acquire a body of lore, method, rule and ritual that in some cases have been transmitted from generation to generation, and in others represent recent innovations. Whatever

their source, the community, rightly or wrongly, regards this information as essential for its survival.[11] Any extensive failure to provide such information to the young in a given society means the inevitability of that society's decline. There is evidence for this, for example, in the deterioration of North American Indian and Eskimo social life, and in the paucity of the North American Black culture owing to the historic separation of the Negro from his African heritage and the restrictions placed upon his development in exile.

In the life of what we may call simple communities (and one can point to the Soviet khokolz, the Israeli kibbutz, and the North American communes as recent examples) there exists what might best be termed a "toti-potency" of roles. In this, other than for sex-differentiated activities, each member of the community is expected to be capable of carrying out a wide variety of tasks. As communal complexity increases, however, task competency tends to demand increasing specialization, or in biological language, a functional specificity of behaviour. As a consequence, increasing task specialization has meant an increase in the kind and extent of instruction such that in technologically advanced societies a few years of pre-adolescent schooling is regarded as no longer sufficient to prepare the younger members for participation in the work of their culture.

Schooling therefore continues, not only through adolescence, but for many, into the first and second decades of adulthood, to say nothing of the increasing practice of "Adult", of "Continuing" education for those who wish to acquire or advance their educational op-

portunities well into, if not throughout, their adult years.

(3) The Criterion of Creative Contribution.--In terms of the foregoing, education has been seen in its adaptive and participatory roles. Quite apart from their naturalistic sanction, these roles are also socially sanctioned as irreducible requirements for social continuity. If these were the necessary and sufficient conditions of education we could stop here, but there are good reasons for suggesting that there is more to be considered.

Social evolution, as that of nature in general, is two-fold. It is general and specific.[12] General evolution concerns the continuity of life through successive levels or stages of complexity; specific evolution concerns the amplification of general evolution into adaptive specializations that have functional efficacy within a given space-time locus. Once a mode of behaviour becomes adaptively specialized it tends towards self-maintenance or a "steady state" and this tendency becomes prepotent over pressures for continuity unless conditions are such that dysfunctionality and decline are immanent.

As there is no pre-programming to shift a society out of its adaptive specialization back into the stream of general evolution, the recognition both of stasis and of evolutionary possibilities rests with the membership of the society. This recognition, however, does not exist of its own accord, but is a result of the state of consciousness of individuals. If their learning has been such to canalize their thought and action into purely adaptive and participatory modes, we then find that the possibilities for innovation and thus personal de-

velopment and social evolution are restricted.

This is clearly implied by Toynbee. For example, when writing of "arrested civilizations," he says that "they have been immobolized in consequence of having achieved a tour de force."[13] And elsewhere he goes on to point out that "...the growths of civilizations are the work of creative individuals or creative minorities..."[14] and, "Growth is the work of creative personalities and creative minorities..."[15] Such personalities and minorities are those who are able to realize that the "tour de force," the adaptive specializations which signify the style of the society are, at least, no longer functional, and at worst are highly restrictive.

Toynbee does not come to grips with the educational significance of this situation, but instead displays a conviction that the "uncreative rank and file of mankind, which is always the overwhelming majority, cannot be transfigured en masse and raised to the stature of their leaders in the twinkling of an eye."[16] The educational significance of his position, we may suggest, is that while there will always be by definition a minority of the most creative individuals, we may well find that those who have made or make up the "creative minority" have had both the particular personality characteristics and opportunities (provided or acquired) to develop their uniqueness. This does not mean, however, that many more persons could not be more creative if they were so encouraged.

After all, two things should be quite clear insofar as education has a part to play in the development of creative ability:

one is that schooling, as an attempt to formalize education, has not evidenced long-standing concern with creativity, and two, extensive schooling for the general public is a fairly recent development. Thus the historical and contemporary possibilities for educating for creative talent have been, and are, rare indeed.[17]

The logic of our position, then, is that a society's evolution rests on the continuing development of its members. Their development rests on their ability to harness those tendencies and powers that can take them beyond the status quo.[18] As, however, the recognition and harnessing of such tendencies and powers is learned, it is implicitly an educational problem. The difficulty is that our schooling, for the time it has existed and to the extent that it does exist, has more or less concentrated on the tasks of shaping the young for adaptive and participatory activities and has disvalued those activities that might be creative and innovative. Thus, the creative individuals in our societies are liable to have succeeded despite, rather than because of, our general educational institutions. While the facts of individual successes, despite our educational deficiencies, cannot be denied the possibilities of providing for a wider base of creative contributions to the society through intentional educational provisions cannot be overlooked.

Now, by creative contribution, we may understand the application of novel responses to continuing or new circumstances, such that these responses become part of the general fabric of the society and according to some measure--which we cannot possibly develop here--

provide for an improvement over what constitutes a normal pattern of thought and action, or in some way indicates possibilities for the future.

This implies that there is more to creativity than merely a spontaneously novel response to a situation, for such a response is but the indication of possibilities. Creativity emerges as a vital factor when it becomes organized and directed towards the solution of problems and to the elaboration of new possibilities for human arrangements, whether we are dealing with artistic, literary, philosophical, scientific, political, legal, technical, or other features of life. For a creative idea to be contributive, it must be grounded in a recognition of the societal or environmental conditions to which (and within which) it is to be applied.

Such objectivity is scarcely possible in childhood. Only in rare cases do we expect to find intentially socially contributive activity (to the extent that it is provided for) emerging much before middle or later adolescence. Hence, while the impulse to innovate and create is certainly available and requires supporting throughout childhood, we must turn to adolescent education as the stage for guiding talent for creative contributions.[19]

(4) The Criterion of Constructive Transformation.--While the creative contributions of individuals add to, and enrich the society, they tend on the whole to find acceptance insofar as they are not in conflict with, or at least are not perceived as a threat to, the lifestyle of the society-at-large and to the vested interests of dominant indiviuals

or groups. If, however, the prevailing social structure cannot, or will not, accept further creative contributions we find individual pressures building up towards social transformation on the one hand, and "establishment" pressures for maintenance of the status quo on the other. If the pressures for continuity are strong enough, a period of social conflict is inevitable, until either stasis or continuity succeeds.

It should be clear that all pressures towards social change are not necessarily constructively transformative. Where the impetus is for a "negative" freedom from restraint without a "positive" orientation towards a clearly conceived good we are not in a position to speak, except perhaps after the fact, of constructive transformation. Destructive transformation is always a possibility.

Our interest here is for constructive transformation, for that which experience and reflection suggests will provide for the optimization and increased self-organization of individual, and by extension, social life. Our problem is that unless the members of the society have been prepared to be constructively transformative we are liable to find ourselves caught up in change for the sake of change, and not for justifiably conceived purposes.

But where is this preparation to be obtained? Clearly, while an orientation for openness and creativity belongs to the childhood stage, the child's adaptative needs, his concern for identity and for acquiring his culture on the one hand, and the society's need to assure its continuity through the adaptiveness of its young on the other, means that this is not the stage for concentrating on

social transformation.

In adolescence we find but the "birth" of objective and reflective thought. It is hardly likely that we will find, or can expect, the intellectual proficiency that is required for the awareness of prevailing conditions, the rational search for alternatives, and a concern for the possible consequences of actions at this stage.

It appears, then, that the task of assisting individuals to become constructive transformers of their society belongs to adult life. Translated into the formal terms of schooling this suggests that the responsibilities of colleges, universities, and facilities for "continuing education", are to enable socially aware and concerned men and women to develop the expertise that can transform the society towards desirable goals. Lacking this preparation, social transformation will continue to rest on the activities of particular pressure groups, unplanned social conflict and the hope that the right leaders will emerge at the right time, true to the messianic tradition.

As this is neither a discussion in value theory nor in curriculum design, the twin problems of determining "desirable goals" for social transformation and the appropriate curriculum content cannot be dealt with here.

To summarize the educational consequences of our criteria thus far (i.e. <u>adaptation</u>, <u>participation</u>, <u>creative contribution</u> and <u>constructive transformation</u>) while not in the least espousing mutually exclusive practices that are restricted to particular educational states, we would suggest that the emphases (or central tendencies)

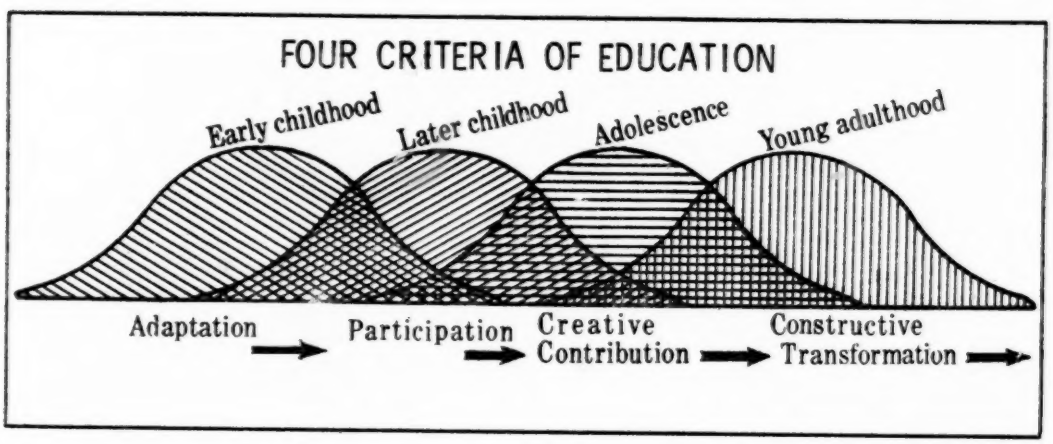
might be as follows:

(1) Adaptation to the environment.--Early Childhood Education (comprising the sensory-motor and pre-operational periods of thought[20]);

(2) Participation in the environment.--Middle and Later Childhood Education (comprising the period of concrete operational thought[21]);

(3) Creative Contribution to the environment.--Adolescent Education (comprising the first period of formal thought[22]);

(4) Constructive Transformation of the environment.--Adult (i.e. post-adolescent) Education.



5. The Paradox of Institutional Change

The position that is being taken in this paper is that educational arrangements are those that can provide for the stability and development of individuals and collectively, for their society;

that in sum, provide for a dynamic equilibrium of continuity.

Our attempt to formalize our educational concerns into schools has created an unavoidable problem. Schools, as we know them, are generally socially sanctioned and controlled institutions whose bent is to satisfy the interests and persuasions of those groups, collectively known as "the Establishment," that hold executive sway over the population-at-large.

Since executive interests tend to be invested in maximizing control over any operations, their tendency is generally conservative, prone to a static rather than a dynamic equilibrium. As a consequence, schools (and universities) as an expression of our attempt to formalize education tend to reflect the interests of the "Establishment," and are thus generally conservative in nature.

While it is usual for our schools to attend to the tasks of preparing the young for adaptive and participatory living in their societies, the task of providing for the creative contributions of youth, while less usual, may still be regarded as acceptable as long as no threat to the status quo is implied or evident. The task, however, of preparing individuals to be social transformists is highly tendencious if not politically untenable to the "Establishment," and can hardly receive its sanction. Thus, at the levels where education (and not just "schooling") can be most vital, at the adolescent and adult levels, we find instead an institutional conservatism which is educationally restrictive.

How the paradox of education for social transformation

(or for individual development and the continuity of social evolution) within the context of systems of schooling that are designed for social maintenance is to be resolved short of major social conflict is unclear. It is here, we might suggest that the "Deschoolers" may have their point, for the "Establishment" may simply be unable to tolerate culturally transformative schooling, so that any possibility of change rests on the demise of the system. A comment by Breed is worth noting: "Educational institutions are merely a species under the genus social institutions, they are part and parcel of the general social fabric. Moreover, it is accepted as axiomatic that the creed that permeates the state shall be the creed that permeates the school."[23] And, Goodings and Lauwerys take the point further in discussing schools:

> Institutions rapidly acquire a quasi-life of their own and begin to act like independent organisms. . . . They acquire traditions and habits which stand them in lieu of instinct and thought. They resist any kind of pressure which might change or modify their structure and the hierarchies of individuals of which they are composed. . . . Whenever any constraint is applied to an institution it changes within itself--always at a minimum--so as to neutralize and minimize the effects of the constraint.[24]

ADDENDUM: Who Shall be Educators?

When all has been said about the importance of education and the role of schooling in human development, a vital and perennial question must still be asked: who shall be educators? Our answer cannot be as positive as we would wish: probably not many of those currently working in our schools and departments and faculties of

education.

Why? For two main reasons. First, the educator is regarded here as an agent for the development of individual and social consciousness. He is not regarded as an institutional functionary, nor as some species of pedagogical civil-servant, but as an individual who is intelligent, creative, humane and academically competent, one who is capable of directing his activities to the increasing self-organization and development of humans. Second, the likelihood of finding many present teachers who fit this category is rather small--not because such people cannot be found who could become teachers--but because we do little to either prepare, or to seek, them.

Let me turn to some findings that created a disturbance when they were first published in 1952 and 1961. We have not heard too much about them of late, but the probability is that things have not changed very much. In Science for September, 1952, Wolfle and Oxteby reported on the academic aptitude of students in various fields in terms of test scores that were converted to the U.S. Army General Classification Test Scale (AGCT). They remark:

> In order, from top to bottom in terms of the median scores, students earning bachelor's degrees line up as follows: physical sciences (except for chemistry), chemistry, engineering, law, English, foreign languages, psychology, economics, geology and the earth sciences, biological sciences, fine arts, nursing (nurses with AB degrees), history, agriculture, business and commerce, humanities (except history and economics), education, home economics and physical education.[25]

Further, in writing of graduate students, they say:

> It is also of interest to know where the poorest quality

> of graduate students go. Again the answer depends partly upon its differential attractiveness to students of different ability levels. The combined result is of this order: of the bottom one fifth of all graduate students, in terms of the AGCT scale, about 6 percent in the social sciences, 10 percent in the humanities and arts, 5 percent in engineering, 3 percent in agriculture and home economics, 4 percent in medicine, 5 percent in dentistry, 1 percent in the other health fields, 8 percent in business and commerce, 46 percent in education, and 6 percent in other fields.[26]

In Science, for March 1961, Harmon reported on the findings of a survey into the High School Backgrounds of Science Doctorates which utilized the U.S. Army Standard Scale (ASS) as a common scale to integrate the results of various intelligence test scores. On this scale Education students again show at the lower end of the ladder:

Table 1. Fields of the doctorate compared in terms of mean intelligence test score, rank in graduating class, and grade point average.

Field of doctorate	Intelligence test score*		"Normalized rank" scores†		Math.-sci. GPA	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Mathematics	138.2	17.0	130.2	14.1	82.55	9.71
Physics	140.3	16.4	131.4	16.7	82.20	10.74
Chemistry	131.5	16.3	125.8	16.8	78.15	12.68
Geology	133.1	14.7	120.4	16.7	73.10	14.82
Engineering	134.8	16.2	128.0	17.3	80.65	11.74
All physical sciences	134.7	16.6	127.4	16.9	79.55	12.41
Biological sciences	126.1	16.4	117.3	18.1	69.35	15.55
Social sciences	132.0	16.9	120.1	18.8	67.70	17.36
Arts and humanities	132.1	16.4	122.6	18.1	70.25	16.90
Education	123.3	16.2	115.9	17.9	66.35	16.32
Social sciences, arts, education	129.8	17.1	119.6	18.5	67.95	16.97
Natural sciences	131.7	17.0	123.9	18.0	75.80	14.46
Total	130.8	17.1	121.8	18.3	71.55	16.37

*Intelligence test scores converted to Army Standard Scale values, with a mean of 100 and standard deviation of 20. †Rank in class converted to Army Standard Scale (see text). 27

On a different ranking, that of the AFCT (used also by Wolfe and Oxtoby in their 1951 study), Harmon notes in comparing different disciplines: "The trailing position of doctorates in education is apparent on all three measures (intelligence, normalized

rank-in-class scores, and mathematics-science grade point average)."[28] Education, you may be relieved to know, was not alone, for students in biology trail along with them at the bottom of the scale, such that Harmon says:

> It is apparent from Fig. 2 as from Table 6 that the physical sciences and social sciences are the outstanding fields at the higher ability levels, followed closely by the arts and humanities, with the biological sciences and education lagging far behind at AFCT levels of 140 and up. Whatever the reasons for these differences, it is apparent that the fields of biology and education have not been able to attract their proportionate share of individuals of highest intelligence, as intelligence is judged from high school intelligence test scores.[29]

(For "Fig.2" and "Table 6" see following page)

Let us compound the issue further. Given that education involves the "coming to terms" of developing humans with their environment, the study of the environment does require an understanding of its discrete aspects, and the development of competency in tool use or skills. Hence the educator, one presumes, should be competent in these areas, whether they are spoken of in terms of traditional subjects, e.g. history, geography, language, literature, art, music, mathematics, or whether as features of inter-disciplinary programmes, such as environmental studies, urban studies, man in nature, and so forth.

What we find, is that not only do education students show

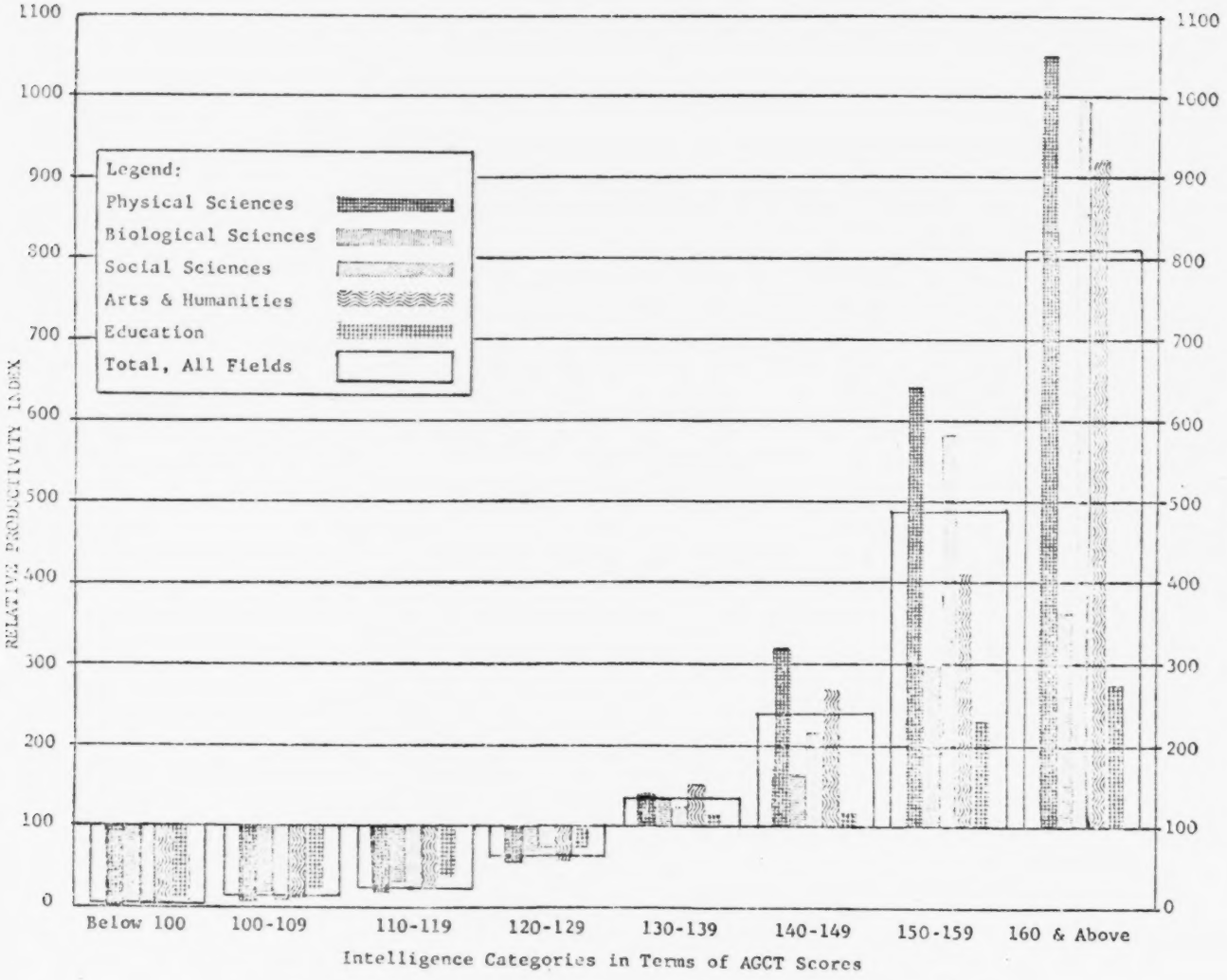


Fig. 2. Relative doctorate productivity, by field and by intelligence level.[30]

Table 6. Doctorate productivity indices for the several fields and ability levels.*

Intel. scale (AGCT units)	Productivity index						
	Phys. sciences	Biol. sciences	Social sciences	Arts, human.	Education	All fields	
170+	1053	365	999	945	278	1531	811
160–169						668	
150–159	643	297	583	415	232	490	
140–149	320	166	217	272	117	239	
130–139	141	135	126	154	114	135	
120–129	57	69	75	59	73	65	
110–119	20	32	23	26	37	25	
100–109	7	17	11	9	19	12	
90–99	1	2	1	1	4	3	1.5
80–89						0.7	
Below 80						0.6	

*These indices give a means of comparing Ph.D. productivity at each ability level and in each field (corrected for field size) with Ph.D. productivity at AGCT 130 (mean, all fields combined).[31]

up less well than students in many other disciplines, but that the academic requirements for completion of a programme leading to teacher certification are in many cases not particularly high. For example, they are variously indicated as C average, or from 55% (University of New Brunswick), 50% (University of Toronto), a GPA of 2.0 (Saskatchewan) and so forth. This does not mean that all institutions accept standards at this level; the University of Victoria for example has a 3.0 GPA requirement.[32]

In addition, students of education not only become teachers, but a number go on to higher degrees in Education, later to become administrators, members of government departments and ministries of education, and even professors of education. An analysis of admission requirements to graduate programmes in Education across Canada reveals that the standard for admission is an ordinary Bachelor's degree ranging from a C to a B average, (50% St. Francis Xavier; 3.0 GPA Calgary and Simon Fraser). Admission to graduate programmes in arts and sciences, however, require an <u>honours</u> degree.[33] Thus, at the upper levels of the profession, lower academic standards are accepted in a field that, directly concerning human development, should require the most superior.

Further, while a good Bachelor's degree can be regarded as perfectly acceptable for those going into school teaching, there are questions to be raised about the content of many degree requirements. For example, the Regulations of the Ministry of Education of the Province of Quebec require that candidates for Class I teach-

ing certificates or Class I Diplomas complete a minimum of six courses in a school subject, or two groups of three courses each in two school subjects. While a six course programme, which is anyway somewhat less than a normal "major" may be acceptable for obtaining basic competency in a teaching subject, there is a serious question as to whether three courses each of two subjects, for example in History and English, qualify one to teach these subjects at the High School level, a situation that is permissable under present regulations.

Now, all of this will be taken to be blatantly conservative and reactionary; a "hawkish" approach when "dovishness" is in favour. Further, I will probably be reminded that there are no significant correlations between: academic ability and intelligence; intelligence and creativity; creativity and academic ability; those with humane feeling or concern for the life of others, and with the ability to teach. While we should accept this reminder it does seem to me that we should seek, encourage and provide for the best possible balance of intelligence, academic ability, creativity and humaneness in those whom we accept into teaching instead of satisfying ourselves with personnel who show up at the lower end of the scales in these areas.

If we are to take education seriously and not as a refuge for various kinds of incompetence whether among prospective or actual practitioners, we must seek to enlist those students who are interested in and are capable of measuring up to Jung's desig-

nation of a truly "modern man," that is to say, one "who is proficient in the highest degree." We may also note Jung's Comment: "I know that the idea of proficiency is especially repugnant to the pseudo-moderns, for it reminds them unpleasantly of their deceits."[34]

Let me close with some recommendations that are not necessarily novel but are possibly worthy of renewed consideration.

1. Let us cease acting as if the only available students for education are those who are intellectually and academically the less competent. Until recently there was a drastic shortage of teachers and people of indifferent qualifications encouraged to join the teaching profession. This shortage has been declining while at the same time there are decreasing employment opportunities for graduates in most academic disciplines. As a result, there is potential population of able students, who previously would have gone into non-educational fields, who could now be encouraged to enter education, gradually replacing those practitioners who, for one reason or another leave the profession.

2. Let us dispense with the current tendency to have a post-graduate teacher-training year follow an undergraduate degree program in a subject area. Rather, teacher-training and subject-area competency should be acquired <u>at the same time</u> throughout the period of undergraduate studies. Too often the post-graduate year is regarded by students as just an "added extra" of questionable academic value, and one that because of the short amount of time

available, does not give them sufficient practical experience and theoretical grounding in education to enable them to embark on a teaching career with professional competence or confidence. Once they are caught up in the generally conservative and institutionalized nature of schooling, they have little time, or inclination to work out the theoretical and practical implications of educative schooling, and they tend to succumb to the status quo of their respective institutions.

3. Let us dispense with undergraduate degree programs in education that are housed in faculties and departments of education. Instead, have all courses that are commonly required for teaching: fine arts, music, drama, language and literature, history, geography (or environmental studies), mathematics, biology, physics, chemistry, etc., and courses in the foundational fields of education: philosophy, history, sociology, anthropology, psychology, etc. taught in the "parent departments," or in cross- or interdisciplinary programs within faculties of arts and sciences.

As a result, those students who are interested in education will do their work with other students and members of faculty who are directly involved in the rigour of the "parent" discipline. This would dispense with what tend to be (with exceptions, of course) "second best" parallel programmes in departments and faculties of education. Under present conditions the most competent students and members of faculty tend to find their places with the "parent departments" where they are in direct contact with the developments of

their respective disciplines. Parallel programs in departments or faculties of education only exceptionally tend to attract the best students and academic staff.

4. Teacher-training is thus looked upon here as a university-wide responsibility, with major roles being taken by the "parent" departments in the "subject" and "foundational" fields. Departments and faculties of education should be reconstituted as Pedagogical centres. These centres would have the responsibility for coordinating a student's teacher-training programme; for internship supervision; providing specialized guidance in such areas as curriculum development and organization, and functioning as an educational research and consultancy bureau for intra-university and community purposes.

5. The proposed teacher-training internship is one that would be followed by aspiring teachers for the full period of their undergraduate studies. Those students who were found to be less than desirable teachers, and those who found teaching to be less than desirable could opt out of teaching and yet continue their academic studies without necessarily jeopardizing their university career.

6. It only remains to suggest that in an effort to improve the quality of the teaching profession "emergency" and one and two year undergraduate teacher-training programs should be phased out. (Provisions will obviously have to be made for those capable people who are already teaching and require extra-study to meet certification standards.)

As a consequence, the demise of schooling can possibly be halted--if we are at all interested in it being halted--by getting at its cause, the very inadequacy of the profession as it presently exists. To do less is to probably accept bankruptcy and admit schooling is through because either we, as espoused educators, or the universities and governments that are also concerned, are not willing to take educative schooling seriously.

Notes

1. Ivan Illich, "The Deschooling of Society" in Alternatives in Education ed. by B. Rusk, (Toronto, General Publishing Co. Ltd., 1971), p.103, cf. also, Deschooling Society, (New York: Harper and Row, 1971)

2. "Deschooling," loc. cit.

3. Th. Dobzhansky, Mankind Evolving, (New Haven: Yale University Press, 1962), p.203.

4. cf. C. Sherrington, Man in His Nature, (Cambridge: Cambridge University Press, 1963), p.182.

5. cf. Mark Braham, "Education, Culture and Personality", McGill Journal of Education, Vol.V, No.2, 1970.

6. For a full discussion cf. Mark Braham, Natural Organization and Education (unpublished Ph.d. dissertation, Stanford University, Stanford, California, 1972), or chapter of same title in Aspects of Educational Technology, (London: Pitman, 1972 in press).

7. Illich, op.cit., p.113.

8. cf. also R.B. Perry, Realms of Value, (Cambridge: Harvard University Press, 1954), p.411: "In short, the purpose of education is threefold: inheritance, participation, and contribution."

9. cf. N. Beck, Modern Science and the Nature of Life, (London: Penguin Books, 1961), p.40.

10. The terms "autocentric" and "allocentric" are from E. Schachtel, Metamorphosis, (New York: Basic Books, 1959).

11. cf. W.B. Brookover and D. Gottlieb, A Sociology of Education, (2nd. ed.; New York: American Book, 1964), p.100: "The basic social processes of socializing the members of society in the appropriate common behaviour patterns and allocation to specific roles are primary functions of education."

12. cf. M. Sahlins and E. Service, eds., Evolution and Culture, (Ann Arbor, Michigan: University of Michigan Press, 1960), pp. 28-29.

13. cf. A. Toynbee, A Study in History, abridged by D.C. Somervell, vol.I, (2 vols.; London, Oxford University Press, 1957), pp. 164-165.

14. ibid., pp.214-215.

15. ibid., p. 276.

16. loc. cit.

17. cf. A. Shumsky, In Search of Teaching Style, (New York: Appleton-Century-Crofts, 1968), p.64:
> In the perception of many teachers, the school curriculum consists of major subjects. . . and the minor subjects. . . . Creativity is extra. Divergency can be encouraged only if "time permits", that is, only if "the important subject matter is covered."

18. cf. Th. Dobzhansky, Mankind Evolving, (New Haven: Yale University Press, 1962), p.338: "The adaptive value of forethought or foresight is too evident to need demonstration. It has raised man to the status of a lord of creation".

19. cf. D. Elkind, Children and Adolescents, (New York: Oxford University Press, 1970), p.66: "From the structly cognitive point of view. . . the major task of early adolescence can be regarded as having to do with the conquest of thought."

20. cf. J. Piaget and B. Inhelder, The Psychology of the Child. trans. by H. Weaver, (New York: Basic Books, 1969).

21. ibid.

22. ibid.

23. F.S. Breed, in Philosophies of Education, ed. by N.B. Henry, Forty-First Yearbook of the National Society for the Study of Education, Part I, (Chicago: University of Chicago Press, 1942), p.87.

24. R.F. Goodings and J. Lauwerys, "General Introduction: Education and International Life", The Year Book of Education, 1964, ed. by G.Z.F. Bereday and J.A. Lauwerys, (new York: Harcourt, Brace and World, 1964), p.478.

25. D. Worfe and T. Oxtoby, "Distribution of Ability of Students Specializing in Different Fields", Science, Vol. 116, September 26, 1952, p.311.

26. op. cit., p. 313.

27. Lindsey R. Harmon, "High School Backgrounds of Science Doctorates," Science, Vol. 133, 10 March, 1961, p.680.

28. op. cit., p.682.

29. op. cit., p.684

30. op. cit., p.685

31. op. cit., p.683

32. Based on a comparison of various Canadian University calendars.

33. idem.

34. cf. C. Jung, "The Spiritual Problem of Modern Man," in Modern Man in Search of a Soul. trans. by W.S. Dell and C.F. Baynes, (New York: Harper, 1933), pp.198ff.